

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the applications:

Listing of Claims:

Claims 1 (canceled)

2. (Currently amended) A purified and isolated seven transmembrane receptor polypeptide ~~according to claim 1~~ comprising an amino acid sequence at least 90% identical to the amino acid sequence set forth in SEQ ID NO: 2, or a fragment thereof comprising an epitope specific to said seven transmembrane receptor polypeptide.

Claims 3-11 (canceled)

12. (Currently amended) A purified and isolated seven transmembrane receptor polypeptide according to ~~any one of claims 1-11~~ claim 2.

13. (Currently amended) A purified and isolated polypeptide according to ~~any one of claims 1-11~~ claim 2 comprising at least one extracellular domain of the seven transmembrane receptor polypeptide.

14. (Currently amended) A purified and isolated polypeptide according to ~~any one of claims 1-11~~ claim 2 comprising the N-terminal extracellular domain of the seven transmembrane receptor polypeptide.

15. (Currently amended) A purified and isolated polypeptide according to ~~any one of claims 1-11~~ claim 2 comprising a seven transmembrane receptor fragment selected from the group consisting of an N-terminal extracellular domain transmembrane domains, extracellular loops connecting transmembrane domains, intracellular loops connecting transmembrane domains, a C-terminal cytoplasmic domain, and fusions thereof.

16. (Currently amended) A polypeptide according to ~~any one of claims 1-15~~ claim 2, wherein the polypeptide further includes a heterologous tag amino acid sequence.

17. (previously presented) A purified and isolated polynucleotide sequence that encodes the polypeptide of claim 16.

18. (Currently amended) A purified and isolated polynucleotide comprising a nucleotide sequence that encodes a polypeptide according to ~~any one of claims 2, 3, 4, 8 or 9~~ claim 2.

19. (Currently amended) A purified and isolated polynucleotide comprising a heterologous expression control sequence operatively linked to a nucleotide sequence that encodes a polypeptide according to ~~any one of claims 1-16~~ claim 2.

20. (previously presented) The polynucleotide according to claim 19, wherein the expression control sequence is a promoter sequence that promotes expression of said polynucleotide in an eukaryotic cell.

21. (previously presented) The polynucleotide according to claim 19, wherein the promoter is a heterologous promoter that promotes expression of the polynucleotide in a human cell.

22. (Currently amended) A purified and isolated polynucleotide comprising a nucleotide sequence that encodes a mammalian seven transmembrane receptor, wherein said polynucleotide hybridizes to ~~any one of the nucleotide sequences~~ sequence set forth in ~~SEQ ID NOS: 1, 3, 5, 7, 9, 11, 13, 15, 17, or 19~~ SEQ ID NO: 1 or the non-coding strand complementary thereto, under the following hybridization conditions:

(a) hybridization for 16 hours at 42°C in a hybridization solution comprising 50% formamide, 1% SDS, 1 M NaCl, 10% dextran sulfate and

(b) washing 2 times for 30 minutes at 60°C in a wash solution comprising 0.1x SSC and 1% SDS,

with the proviso that the nucleotide sequence of the polynucleotide differs from the coding sequence set forth ~~in any one of SEQ ID NOS: 1, 3, 5, 7, 9, 11, 13, 15, 17, or 19~~ SEQ ID NO: 1 and from its complementary strand by at least one nucleotide.

23. (previously presented) A polynucleotide according to claim 22 that encodes a human seven transmembrane receptor.

24. (Currently amended) A vector comprising a polynucleotide according to ~~any one of claims 17-23~~ claim 18.

25. (previously presented) A vector according to claim 24 that is an expression vector for expressing the polynucleotide in a mammalian cell.

26. (Currently amended) A host cell stably transformed or transfected with a polynucleotide according to ~~any one of claims 17-23~~ claim 18 in a manner allowing the expression in said host cell of the polypeptide or fragment thereof encoded by the polynucleotide.

27. (Currently amended) A host cell stably transformed or transfected with a vector according to claim ~~[[24 or]]~~ 25 in a manner allowing the expression in said host cell of the polypeptide or fragment thereof encoded by the polynucleotide.

28. (Currently amended) A method for producing a seven transmembrane receptor polypeptide comprising the steps of growing a host cell according to claim 26 ~~[[or 27]]~~ in a nutrient medium under conditions in which the host cell expresses a seven transmembrane receptor encoded by the polynucleotide.

29. (previously presented) A method according to claim 28, further comprising a step of isolating said polypeptide from said cell or said medium.

30. (previously presented) A method according to claim 29, further comprising a step of isolating cell membranes from the host cell, wherein the cell membrane comprises the seven transmembrane receptor.

31. (Currently amended) An antibody specific for a polypeptide according to ~~any one of claims 1-15~~ claim 2.

32. (previously presented) The antibody of claim 31 which is a monoclonal antibody.

33. (previously presented) A hybridoma that produces an antibody according to claim 32.

34. (previously presented) An antibody according to claim 31 that is a humanized antibody.

35. (Currently amended) An antibody according to claim 31 that specifically binds an extracellular epitope of a seven transmembrane receptor having an amino acid sequence ~~selected from the group consisting of~~ SEQ ID NO: 2 ~~NOS: 2, 4, 6, 8, 10, 12, 14, 16, 18 or 20~~.

36. (previously presented) An antibody according to claim 35 that specifically binds to the amino-terminal extracellular domain of the seven transmembrane receptors.

37. (previously presented) A cell-free composition comprising polyclonal antibodies, wherein at least one of said antibodies is an antibody according to claim 31.

38. (previously presented) An anti-idiotypic antibody specific for an antibody according to claim 31.

39. (Currently amended) A polypeptide comprising a fragment of an antibody according to claim 31, wherein said fragment and said polypeptide specifically bind to a

seven transmembrane receptor having an amino acid sequence ~~selected from the group consisting of SEQ ID NOS: 2, 4, 6, 8, 10, 12, 14, 16, 18 or 20~~ set forth in SEQ ID NO: 2.

40. (previously presented) A polypeptide according to claim 39 that is selected from the group consisting of single chain antibodies and CDR-grafted antibodies.

41. (Currently amended) A composition comprising a polypeptide according to ~~any one of claims 1-16~~ claim 2 in a pharmaceutically acceptable carrier.

42. (Currently amended) A composition comprising an antibody according to ~~any one of claims 31, 32, 34, 35, or 36, or a polypeptide according to claim 39 or 40~~ claim 31 in a pharmaceutically acceptable carrier.

43. (Currently amended) A method for modulating ligand binding of a seven transmembrane receptor polypeptide according to ~~any one of claims 1-15~~ claim 2, comprising the step of contacting said seven transmembrane receptor polypeptide with an antibody specific for said seven transmembrane receptor, under conditions wherein the antibody binds the receptor.

44. (Currently amended) A method for modulating ligand binding of a seven transmembrane receptor polypeptide comprising the step of contacting said seven transmembrane receptor polypeptide with a polypeptide according to claim 39 ~~[[or 40]]~~.

45. (Currently amended) An assay to identify compounds that bind a seven transmembrane receptor polypeptide, said assay comprising the steps of:

(a) contacting a composition comprising a seven transmembrane receptor polypeptide according to ~~any of claims 1-15~~ claim 2 with a compound suspected of binding the seven transmembrane receptor polypeptide; and

(b) measuring binding between the compound and the seven transmembrane receptor polypeptide.

46. (Currently amended) A method for identifying a modulator of binding between a seven transmembrane receptor polypeptide and a binding partner of the seven transmembrane receptor polypeptide, comprising the steps of:

(a) contacting the binding partner and a composition comprising the seven transmembrane receptor polypeptide in the presence and in the absence of a putative modulator compound, where the seven transmembrane receptor polypeptide is a polypeptide according to ~~any one of claims 1-15~~ claim 2;

(b) measuring binding between the binding partner and said seven transmembrane receptor polypeptide; and

(c) identifying a putative modulator compound in view of decreased or increased binding between the binding partner and seven transmembrane receptor polypeptide in the presence of the putative modulator, as compared to binding in the absence of the putative modulator.

47. (Currently amended) An assay according to claim 45 [[or 46]] wherein the composition comprises a cell expressing the seven transmembrane receptor polypeptide on its surface.

48. (previously presented) An assay according to claim 47 wherein the measuring step comprises measuring intracellular signaling of the seven transmembrane receptor polypeptide induced by the compound.

Claims 49-77 (canceled)